

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: TCA7P51A3111GACD01

Catalog No: TCA7P51A3111GACD01

Cast Iron Motor, 10 HP, 3 Ph, 50 Hz, 415 V, 3000 RPM, 132S Frame, TEFC



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**RegalRexnord**

### Nameplate Specifications

Output HP	10 Hp	Output KW	7.5 kW
Frequency	50 Hz	Voltage	415 V
Current	12.7 A	Speed	2931 rpm
Service Factor	1	Phase	3
Efficiency	90.1 %	Power Factor	0.91
Duty	S1	Insulation Class	F
Frame	132S	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	50 °C
Drive End Bearing Size	6308	Opp Drive End Bearing Size	6208
UL	No	CSA	No
CE	Yes	IP Code	55
Number of Speeds	1	Efficiency Class	IE3

### Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	Rotation	Bi-Directional
Mounting	B3	Motor Orientation	Horizontal
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	465 mm	Frame Length	202 mm
Shaft Diameter	38 mm	Shaft Extension	80 mm
Assembly/Box Mounting	Top		
Connection Drawing	8442000085	Outline Drawing	0213200610

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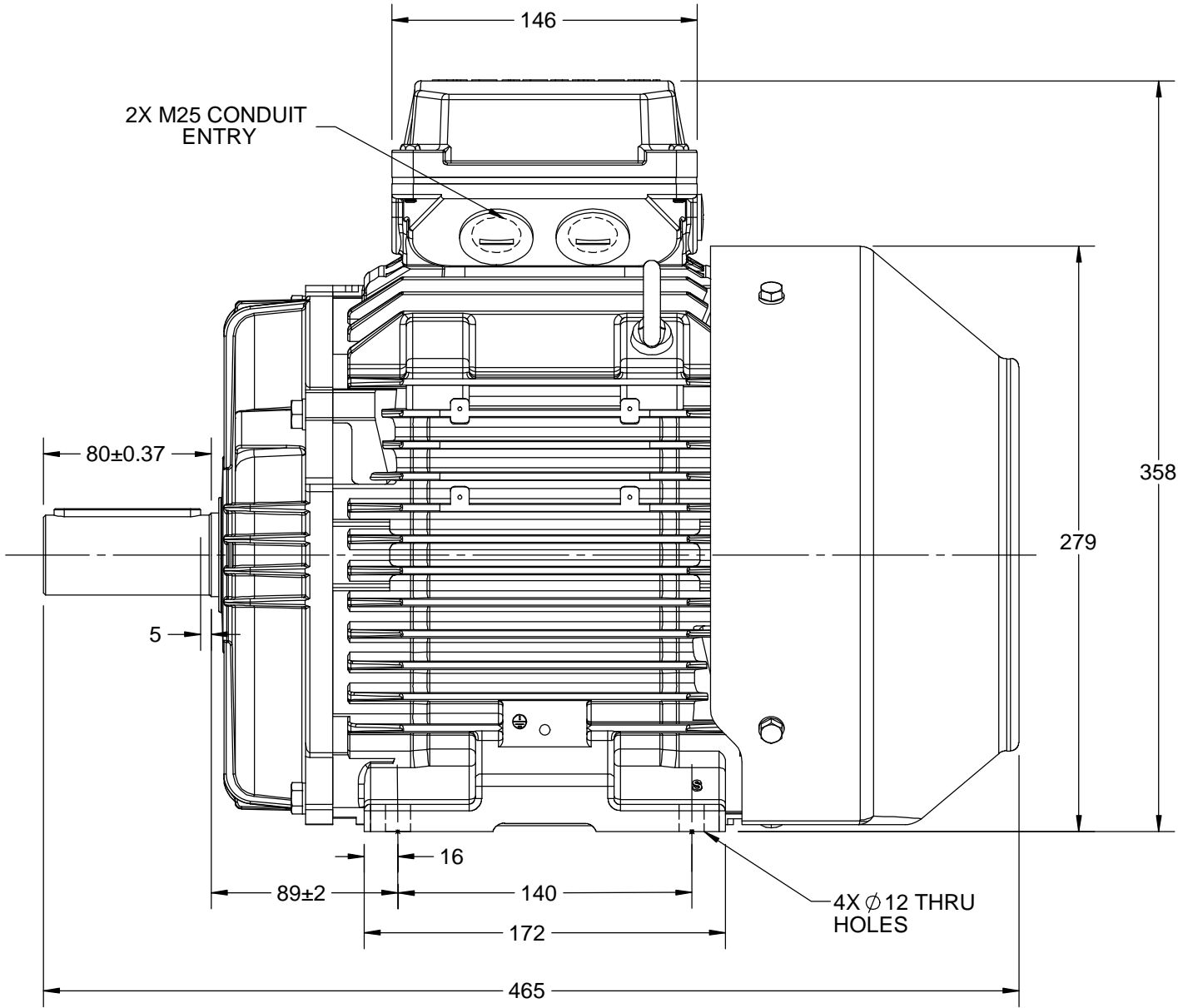
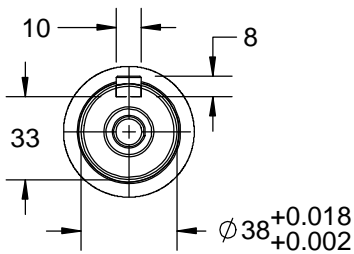
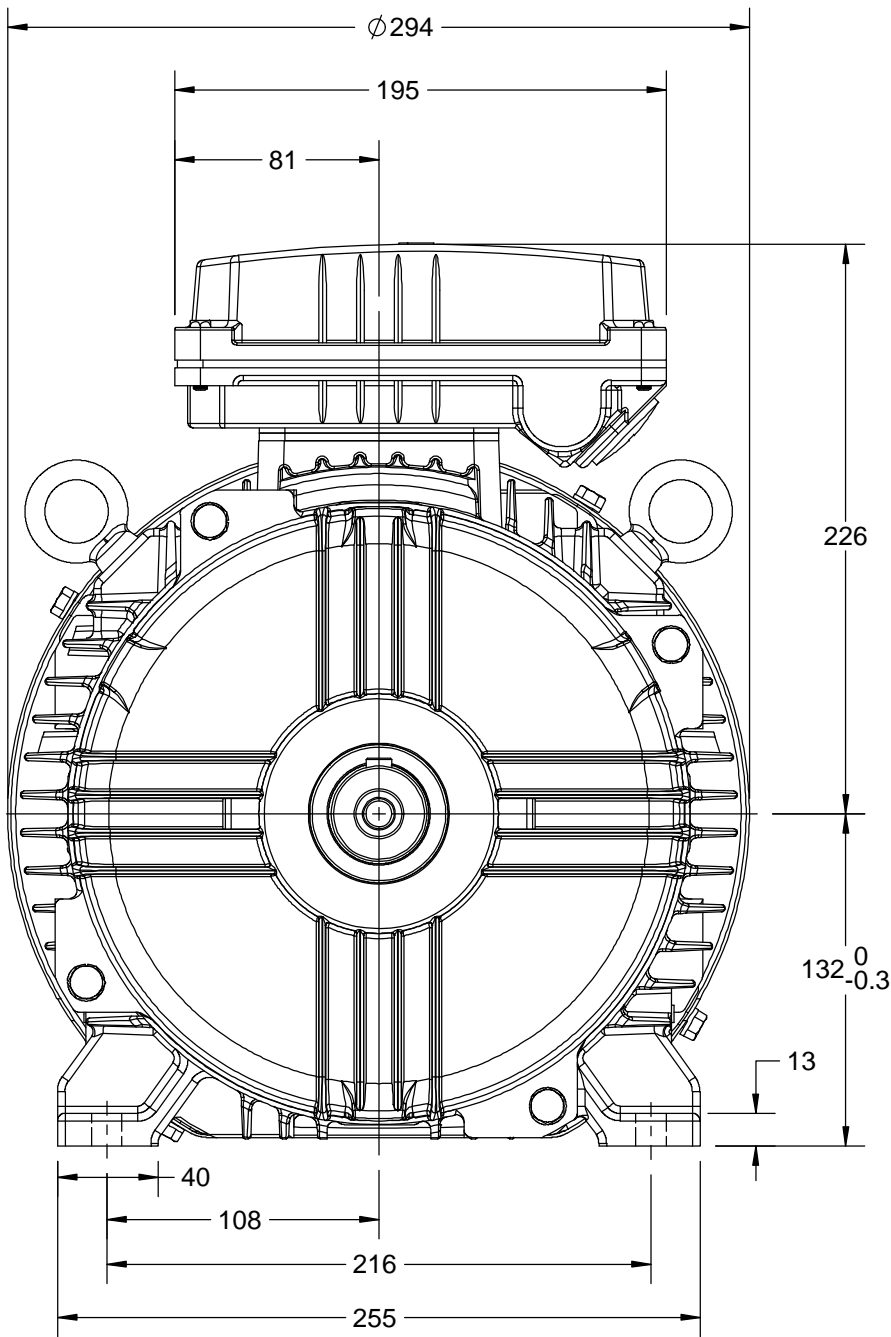
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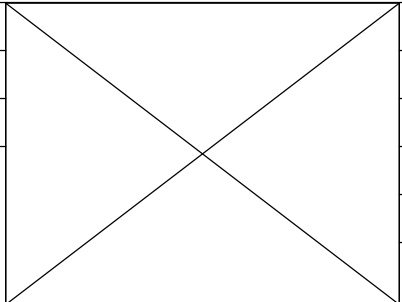
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DRAWING REVISION C	REVISION BY S.MUDDA	DATE 26/06/2018
ECO ECO-0147359	APPROVED BY JAY	DATE 26/06/2018
ECO DESCRIPTION OUTLINE UPDATED AS PER NEW 3D STRUCTURING		
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DRAWN BY VINAY	<b>marathon™</b> Motors		
DATE 10/11/2014			
APPROVED BY KRK	DESCRIPTION <b>OUTLINE</b>		
DATE 10/11/2014	132-S FR.- B3 MTG. MOTOR TYPE TCA\QCA		
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0213200610	SHEET 1 OF 1

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DRAWING REVISION <b>A</b>	REVISION BY <b>SN</b>	DATE <b>13/01/2017</b>
ECO <b>ECO-0116390</b>	APPROVED BY <b>SBD</b>	DATE <b>13/01/2017</b>
ECO DESCRIPTION <b>NEW DRAWING RELEASE</b>		

GEOMETRIC TOLERANCE		
LINEAR DIM	>0~6	±0.1
	>6~30	±0.2
	>30~120	±0.3



**NOTES:**

1. PRESSURE-SENSITIVE ADHESIVE COATED PAPER ON THE BACK OF SELF-ADHESIVE.
2. AT THE END OF YELLOW, WORDS, SYMBOLS, LETTERS ARE BLACK, BORDER IS BLACK.
3. THE TOLERANCE OF THE LINEAR SIZE OF THE TOLERANCE WITHOUT THE TOLERANCE BY THE TABLE.

8WD.442.2017



DRAWN BY <b>SN</b>	 <b>Regal Beloit America, Inc.</b>		
	DESCRIPTION <b>CONN DIAGRAM-NAMEPLATE</b>		
	MATERIAL		PROCESS/FINISH
DATE <b>16/12/2016</b>	THIRD ANGLE PROJECTION 		SHEET <b>1 OF 1</b>
APPROVED BY <b>SBD</b>	SIZE <b>A</b>		DRAWING NUMBER <b>8442000085</b>
DATE <b>16/12/2016</b>			
REFERENCE			

**Model No.** TCA7P51A3111GACD01

U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load				PF at __ load			I <sub>A</sub> /I <sub>N</sub> [pu]	T <sub>A</sub> /T <sub>N</sub> [pu]	T <sub>K</sub> /T <sub>N</sub> [pu]
415	Δ	50	7.5	10	12.7	2931	24.30	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	7.5	2.5	3.4
									-	90.1	90.1	89.5	0.91	0.88	0.81			

Motor type	TCA
Enclosure	TEFC
Frame Material	Cast Iron
Frame size	132S
Duty	S1
Voltage variation *	± 10%
Frequency variation *	± 5%
Combined variation *	10%
Design	N
Service factor	1.0
Insulation class	F
Ambient temperature	-20 to +50 °C
Temperature rise (by resistance)	70 [ Class B ] K
Altitude above sea level	1000 meter
Hazardous area classification	NA
Zone classification	NA
Gas group	NA
Temperature class	NA
Rotor type	Aluminum Die cast
Bearing type	Anti-friction ball bearing
DE / NDE bearing	6308-2Z / 6208-2Z
Lubrication method	Greased for life
Type of grease	NA

Degree of protection	IP 55
Mounting type	IM B3
Cooling method	IC 411
Motor weight - approx.	84 kg
Gross weight - approx.	87 kg
Motor inertia	0.0230 kgm <sup>2</sup>
Load inertia	Customer to Provide
Vibration level	1.6 mm/s
Noise level ( 1meter distance from motor)	64 dB(A)
No. of starts hot/cold/Equally spread	2/3/4
Starting method	DOL
Type of coupling	Direct
LR withstand time (hot/cold)	10/20 s
Direction of rotation	Bi-directional
Standard rotation	Clockwise form DE
Paint shade	RAL 5014
Accessories	
Accessory - 1	-
Accessory - 2	-
Accessory - 3	-
Terminal box position	TOP
Maximum cable size/conduit size	1R x 3C x 16mm <sup>2</sup> /2 x M25 x 1.5
Auxiliary terminal box	NA

I<sub>A</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

T<sub>K</sub>/T<sub>N</sub> - Breakdown Torque / Rated Torque

T<sub>A</sub>/T<sub>N</sub> - Locked Rotor Torque / Rated Torque

**NOTE**

All performance values at rated voltage and frequency.

All performance parameters are subjected to standard tolerance as per IEC 60034-1

\* Voltage, Frequency and combine variation are as per IEC60034-1

Technical data are subject to change. There may be discrepancies between calculated and name plate values.

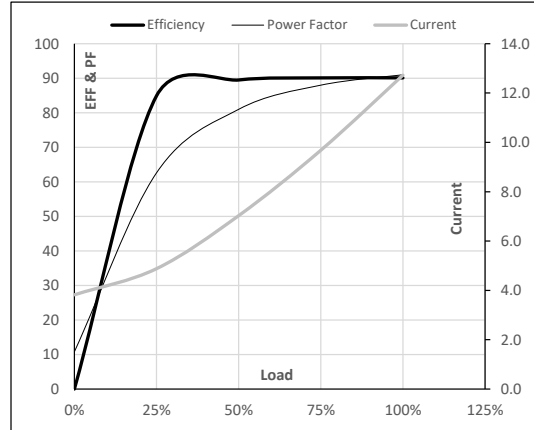
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	-	IS 12615 : 2018	-	-	-

**Model No.** TCA7P51A3111GACD01

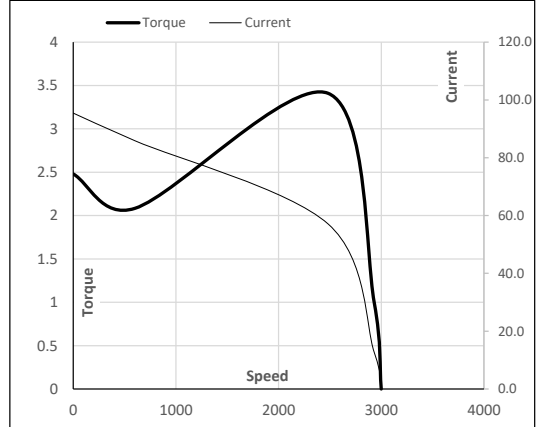
Enclosure	U (V)	Δ / Y Conn	f (Hz)	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	415	Δ	50	7.5	10.0	12.7	2931	2.48	24.30	IE3	50	S1	1000	0.023	84.0

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	3.8	4.9	7.0	9.7	12.7	
Torque	Nm	0.0	6.0	12.0	18.1	24.3	
Speed	r/min	3000	2983	2967	2950	2931	
Efficiency	%	0.0	84.9	89.5	90.1	90.1	
Power Factor	%	10.8	62.6	81.0	88.0	91.0	

**Performance vs Load Chart**

**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2482	2931	3000
Current	A	95.4	85.9	57.1	12.7	3.8
Torque	pu	2.5	2.1	3.4	1	0

**Starting Characteristics Chart**

**NOTE** Refer data sheet for applicable standard and tolerances on performance parameters

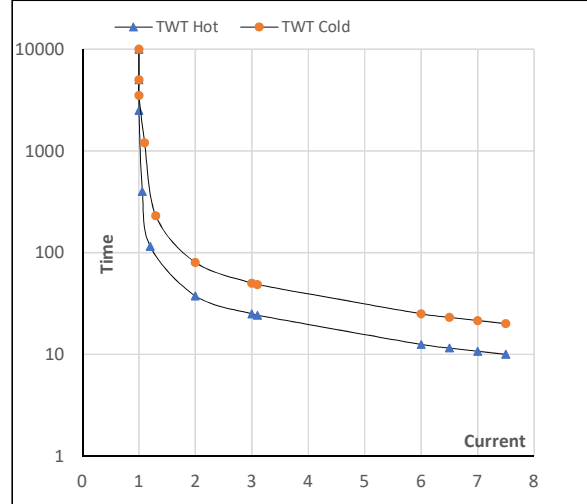
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**Model No.** TCA7P51A3111GACD01

Enclosure	U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg·m <sup>2</sup> ]	Weight [kg]
TEFC	415	$\Delta$	50	7.5	10	12.7	2931	2.48	24.30	IE3	50	S1	1000	0.0230	84

**Motor Speed Torque Data**

Load	FL	$I_1$	$I_2$	$I_3$	$I_4$	$I_5$	LR	
TWT Hot	s 10000	37	25	20	16	13	10	
TWT Cold	s 10000	80	50	44	36	29	20	
Current	pu	1	2	3	4	5	5.5	7.5

**Thermal Characteristics Chart**

**NOTE** Refer data sheet for applicable standard and tolerances on performance parameters

Issued By

Issued Date

## EC Declaration of Conformity

The undersigned representing  
the manufacturer:

Regal Beloit America  
100 East Randolph St.  
Wausau, WI 54401

and the authorized representative  
established within the Community:

Marathon Electric UK  
6F Thistleton Road Ind. Estate  
Market Overton  
Oakham, Rutland LE15 7PP UK

are committed to providing customers with products that comply with applicable regulations and international protocols to which they are subject, including the requirements of the European Parliament Directive on the Harmonization of the laws relating to electrical equipment designed for use within certain voltage limits (2014/35/EU).

Regal Beloit America declares that the following product(s), to which this declaration relates, are in conformity with the relevant sections of the EC standards listed below.

This statement supersedes any statements previously issued pertaining to the product(s) listed below and is subject to change without notice.

Model No : TCA7P51A3111GACD01

(Model No. may contain prefix and/or suffix characters)

Catalog No : TCA7P51A3111GACD01

Rework No : N/A

Directives :

Low Voltage Directive 2014/35/EU

Harmonized Standards Used :

EN 60034-1: 2010 (IEC 60034-1: 2010)

EN 60034-5: 2001/A1:2007 (IEC 60034-5: 2000/A1:2006)

Authorized Representative:



Michael A. Logsdon  
Vice President, Technology

Authorized Representative in the Community:



Julian Clark  
Marketing Engineer

Created on 09/01/2022

**CE 22**